



# ***State Water Resources Control Board***

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***Jean Bandura  
(Project Greenbelt)***

***Bill Orme  
(Project Champion)***

***Phil Crader  
(Executive Sponsor)***

***Lean 6-Sigma Program***



# ***Processing Time Reduction for 401 Applications***

**Problem Statement:** *At 273 days, processing applications and issuing 401 Water Quality Certification certifications is a time consuming and resource intensive process*

**Objective:** *Reduce 401 Certification processing time to 90 days*

## **Project Team:**

***Jean Bandura – Greenbelt***

***Bill Orme – Champion***

***Phil Crader – Executive Sponsor***

## **Team Members:**

***WQC Unit***

***Ryan Mallory-Jones, WB Legal Staff***

***Mark Harvey, Caltrans & Customer***



**Lean 6-Sigma Program**



# Baseline Capability

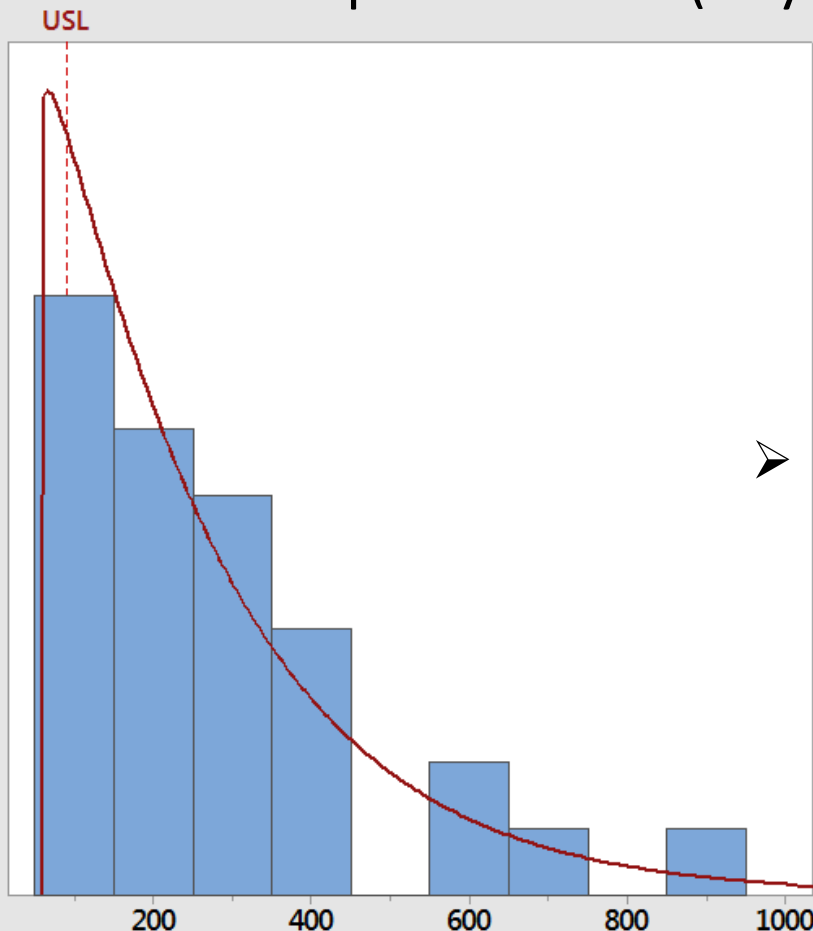
## Application Completion Time (Days)

Process Data	
LSL	*
Target	*
USL	90
Sample Mean	273.633
Sample N	30
Shape	1.03845
Scale	220.131
Threshold	56.8032

Observed Performance	
% < LSL	*
% > USL	83.33
% Total	83.33

Overall Capability	
Pp	*
PPL	*
PPU	-0.10
Ppk	-0.10

Exp. Overall Performance	
% < LSL	*
% > USL	86.92
% Total	86.92

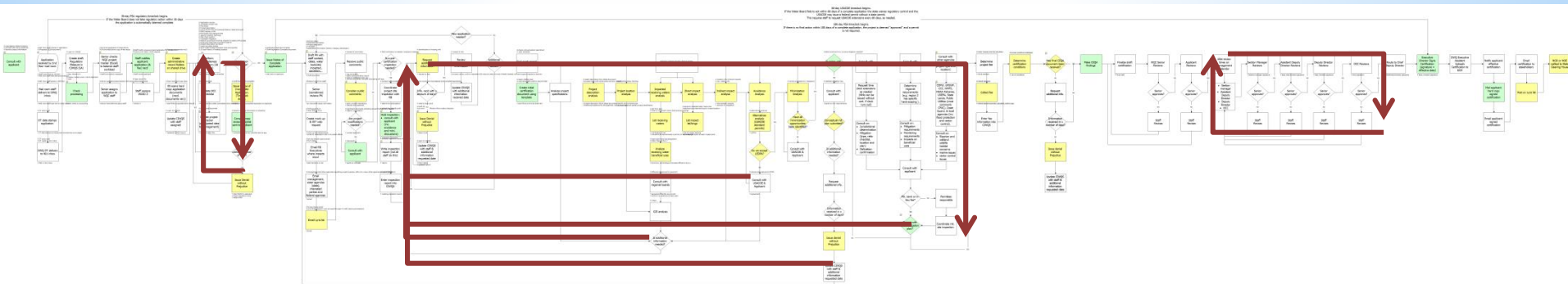


➤ 273 day process

➤ Completion time exceeds 90 days for 83% of applications

# Initial Process Map

- 130 Step Process Map
- 13 value added steps

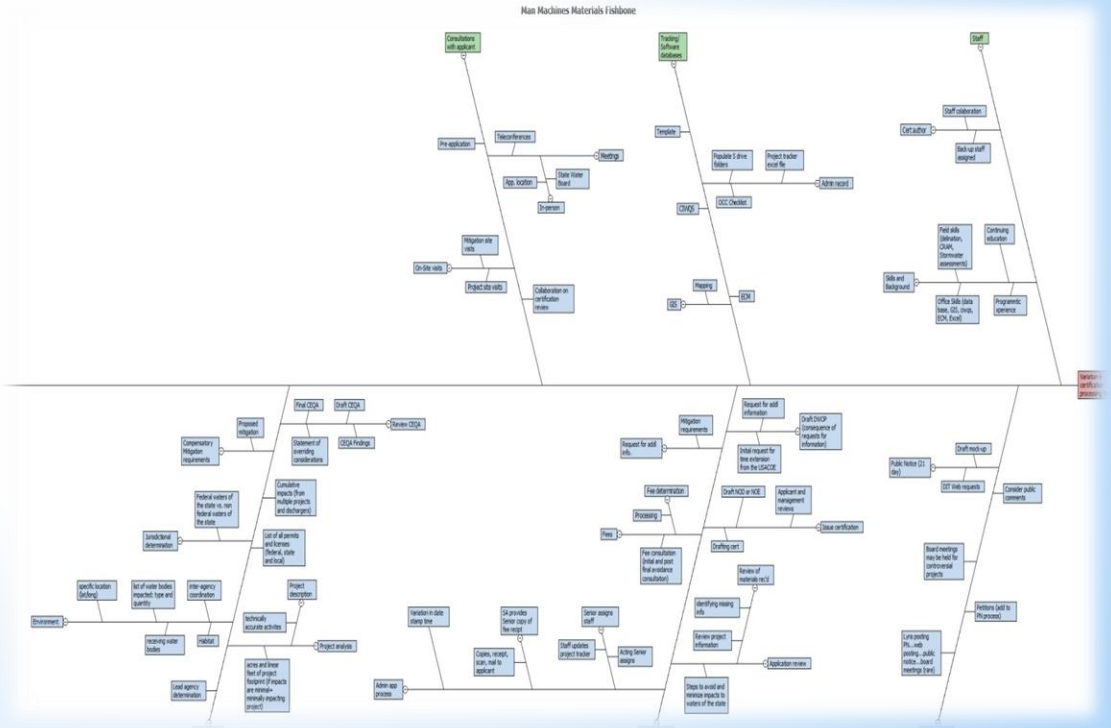


Re-work loops

- Multiple requests for information
- Review
- Excessive wait time

## Analysis Tools

- Process maps
- Pareto charts
- FMEA
- Fishbone diagram
- Hypothesis tests



# Key Analytical Finding 1 –FMEA

Process Step	Input	Defect	Effects	RPN
Has Final CEQA been received?	CEQA document	NOT final	Cannot issue certification	900
Concur with mitigation?	Draft mitigation plan	Incomplete Plan (13 criteria)	Significant Delay	810
Request for information	Lack of information	<b>Unclear request</b>	Delay	729

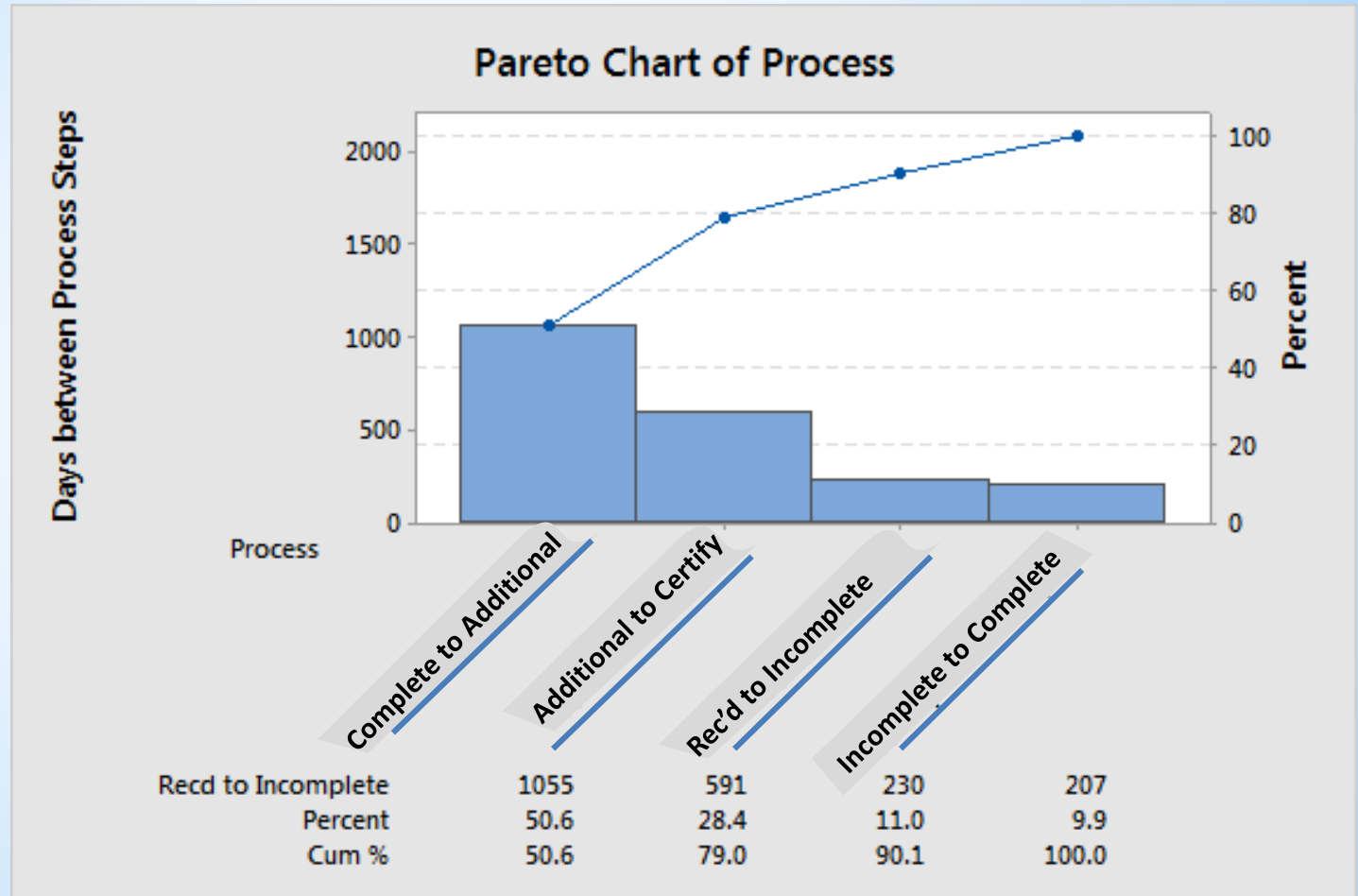
- Key process inputs determine completion time
- Unclear requests for information lead to unnecessary back and forth with the applicant



# Key Analytical Finding 2

## –Pareto Chart of Processing Steps

- Each step represents additional **information requests**
- The most time passes between deeming an **application complete and certification**



# *Critical X's (root causes of problems)*

- Final CEQA document
- Mitigation plan
- Information requests



# *Improvement Techniques*

## **Revised Process** *initiates early coordination*

- Pre-application consultation
- Pre-certification inspection

## **Standard work** *provides consistent public service*

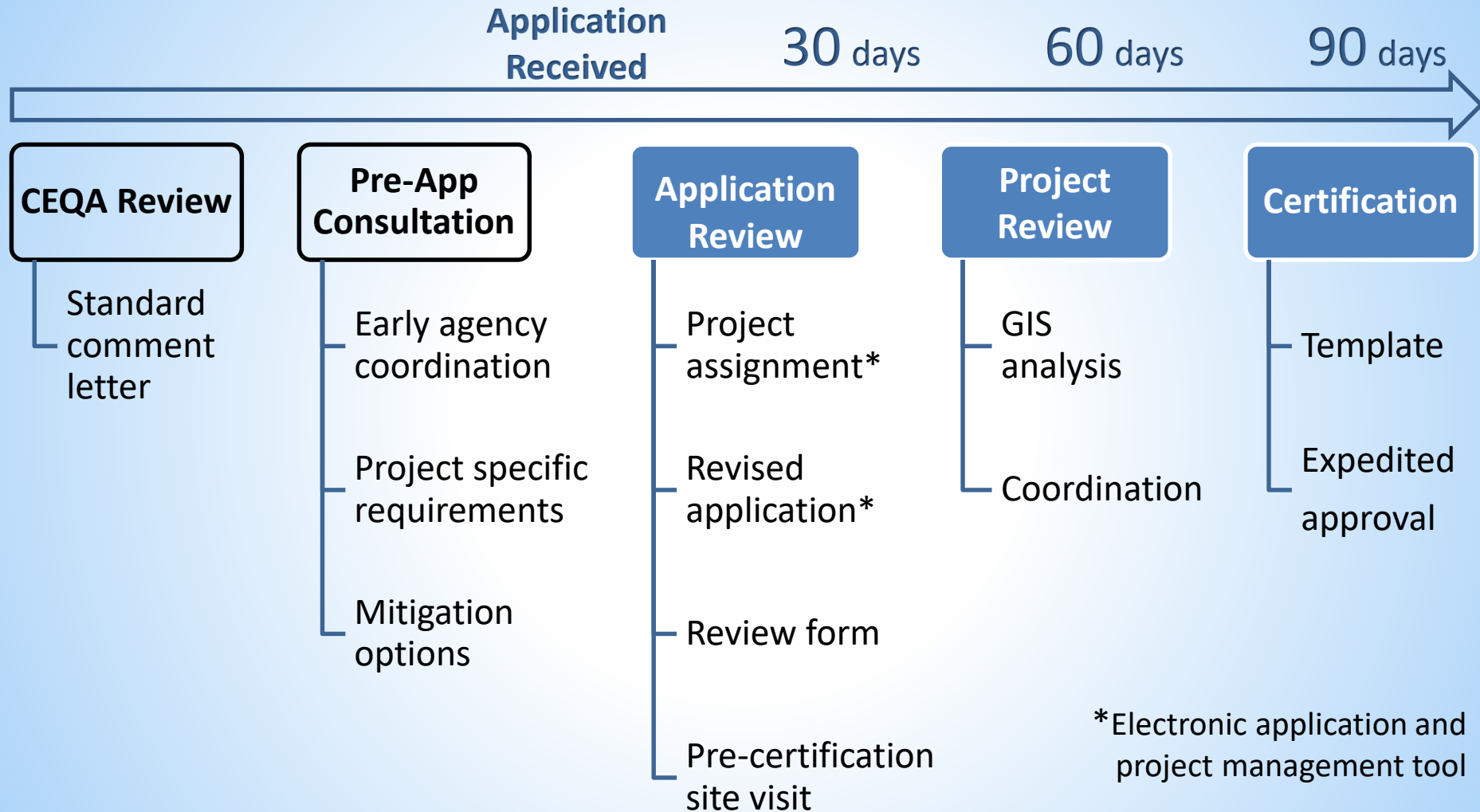
- Certification template
- New application form

## **Visual management tools** *improve communication*

- Updated application tracking

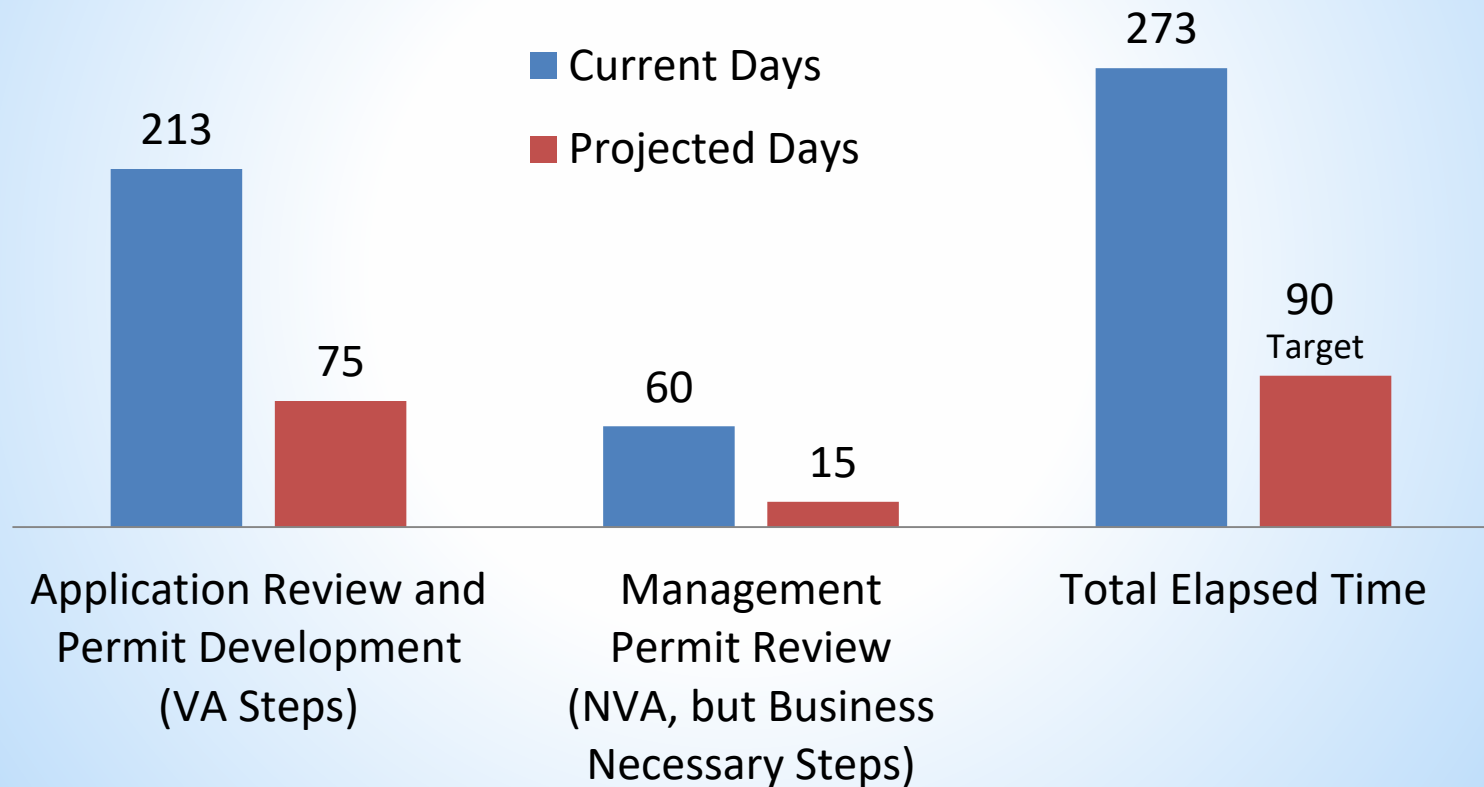


# New Process Map



# Projected Capability Analysis

## Comparison of Process Map Timeframes



# ***Control Plan***

**Implemented measurement system** to track critical X's

**Standing unit meeting agenda item** for project progress review

## **Procedures**

- New application form
- Certification template
- Administrative manual
- Review checklist



# *Additional Benefits*



## Improved

- Transparency
- Regulatory consistency
- Public service
- Environmental protection

# *Green Belt Contact Information*

## **Jean Bandura**

**Environmental Scientist**

**401 Water Quality Certification Unit**

**Division of Water Quality**



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